

## AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

Claim 1 (currently amended) A method of rapidly determining the transmission time and range of a position message under an Internet virtual reality environment, in which a timer scheme is employed for updating the virtual reality environment by using a timer to count a predetermined time value so as to transmit a message for informing all users participating in the virtual reality environment to update their positions when the time value has elapsed and the virtual reality environment reaches a predetermined inconsistency, the method comprising the steps of:

- (A) dividing a virtual scene into a plurality of blocks for determining an area of interest;
- (B) defining a block where a user is in and blocks neighboring to the block as a low interactive area of interest;
- (C) dividing each block of the low interactive area of interest into a plurality of sub-blocks;
- (D) defining a sub-block where the user is in and subblocks neighboring to the sub-block as a high interactive area of interest; and
- (E) transmitting a message to update state of the virtual reality environment based on different settings of the low interactive area of interest and the high interactive area interest when the predetermined time value for a respective one of the low and high interactive areas of interest has elapsed and the virtual reality environment reaches a predetermined inconsistency, wherein the predetermined time value for the high interactive area of interest is set shorter than that for the low interactive area of interest.

2. (original) The method as claimed in claim 1, wherein, in steps (A) and (C), the virtual scene and block are divided in a square division manner.

Claim 3 (canceled)

Claim 4 (canceled)

Claim 5 (canceled)

Claim 6 (new) A method of rapidly determining the transmission time and range of a position message under an Internet virtual reality environment, in which a dead reckoning scheme is employed for updating the virtual reality environment by estimating a position of a user participating in the virtual reality environment so as to transmit a message to update the position of the user when a difference between the estimated position and actual position of the user is larger than a predetermined threshold, the method comprising the steps of:

- (A) dividing a virtual scene into a plurality of blocks for determining an area of interest;
- (B) defining a block where the user is in and blocks neighboring to the block as a low interactive area of interest;
- (C) dividing each block of the low interactive area of interest into a plurality of sub-blocks;

- (D) defining a sub-block where the user is in and subblocks neighboring to the sub-block as a high interactive area of interest; and
- (E) transmitting a message to update the virtual reality environment based on the low interactive area of interest and the high interactive area of interest when the difference between the estimated position and actual position of the user is larger than the predetermined threshold value, wherein the predetermined threshold for the high interactive area is set smaller than that for the low interactive area of interest.

Claim 7 (new) The method as claimed in claim 6, wherein, in steps (A) and (C), the virtual scene and block are divided in a square division manner.